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10/723,633	11/26/2003	James Todhunter	IMC-1000	9719

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EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _17 March 2008_.
2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _4-15 and 17-32_ is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) _4-15 and 17-32_ is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on _28 August 2006_ is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☐ All b) ☐ Some * c) ☐ None of:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____.
      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1.   This Office Action is in response to an AMENDMENT entered March 17, 2008

for the patent application 10/723,633 filed on November 26, 2003.

2.   All prior office actions are fully incorporated into this Final Office Action by

reference.

Status of Claims

3.   Claims 4-15 and 17-32 are pending.

Claim Rejections - 35 USC § 101

4.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

5.   Claims 4-15 and 17-32 are rejected under 35 U.S.C. § 101 for nonstatutory

subject matter.

The courts have held that a claim may not preempt ideas, laws or nature or

natural phenomena. The concern over preemption was expressed as early as 1852.

See Le Roy v. Tatham, 55 U.S. (14How.) 156, 175 (1852) ("A principle, in the abstract,

is a fundamental truth; an original cause; a motive; these cannot be patented, as no one

can claim in either of them an exclusive right."); <u>Funk Bros. Seed Co. v. Kalo Inoculant</u>

<u>Co.</u>, 333 U.S. 127, 132, 76 USPQ 280, 282 (1948).

Accordingly, one may not patent every "substantial practical application" of an

idea, law of nature or natural phenomena because such a patent "in practical effect

would be a patent on the [idea, law of nature or natural phenomena] itself." "Here the

"process" claim is so abstract and sweeping as to cover both known and unknown uses

of the BCD to pure-binary conversion. The end use may (1) vary from the operation of

a train to verification of drivers' licenses to researching the law books for precedents

and (2) be performed through any existing machinery or future-devised machinery or

without any apparatus." <u>Gottschalk v. Benson</u>, 409 U.S. 63, 71-72, 175 USPQ 673, 676

(1972).

Preemption exists since the claims can read on any type of problem and any

problem can be reformatted into a natural language format.

Obviousness Rejection of Claims

6.   Claims 4-15 and 17-32 are rejected since such claims represent in concept a

problem statement which is a mathematical algorithm and is of consequence abstract

and non statutory under 35 USC 101. The routine addition of modern electronics to an

otherwise unpatentable invention typically creates a prima facie case of obviousness

<u>Leapfrog Enters., Inc. v. Fisher-Price, Inc.</u>, 485 F.3d 1157, 1161 (Fed. Cir. 2007).

Claim Rejections - 35 USC § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

8.   Claims 4-15 and 17-32 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Putejovsky et al (USPPGPubN 2002/0120651, referred to as

Putejovsky1).

Examiner's Note (EN): ¶ 13.below applies. Applicant is invited to review ¶¶ 0002, 0036

and 0038 which incorporate a plurality of subject matter that either applies as

incorporated by reference or as obvious to one of ordinary skill in the are at the time of

the invention. USPGPubN 2001/0037328, ¶0015 of **Putejovsky**1 is **Putejovsky**2. The

subject of automation is obvious with the computer implementation. Tech Optimizer,

User Guide, by Invention Machine, Version 4.0, (c) 1995-2002 is an alternative prior art

to that of Putejovsky and will be used when and if the prior art of Putejovsky no longer

reads on the instant invention.   The term "configured to" is of the family of "adapted to"

and MPEP 2111.04 applies.

Claims 4, 5, 11, 12, 13, 14

Putejovsky teaches "configured to" ... (**Putejovsky**1, Fig. 1; EN: applicant is

informed that since this claim is merely limited by the term "configured to", the examiner

will interpret that such limitation is nothing more than a "view of" and subsequent

following statements are of no consequence).   ; Fig. 1; EN: computer implementation

would involve Boolean operations).

Claims 6, 18

Putejovsky teaches the at least one knowledge base includes a semantic

analysis knowledge base (**Putejovsky2**, ¶ 0030).

Claims 7, 19

Putejovsky teaches at least one knowledge base is resident on a storage

medium co-located with the computer (**Putejovsky1**, ¶ 0034; EN: if the storage medium

is to be effective, it would of consequence be co-located with the computer).

Claims 8, 20

Putejovsky teaches at least one knowledge base is resident on a corporate

server (**Putejovsky1**, ¶ 0034; EN: corporate server is merely descriptive terminology for

a computer).

Claims 9, 21

Putejovsky teaches at least one knowledge base is remotely accessible

(**Putejovsky2**, Abstract; Fig. 1).

Claims 10, 22

Putejovsky teaches a patent collection that is remotely accessible (**Putejovsky2**,

Abstract; Fig. 1; EN: patent collection is merely descriptive material that represents data

or a knowledge base).

Claims 17

Putejovsky teaches reformulating the machine representation of the

problem includes into a natural query includes translating functional relationships

in the machine representation of the problem statement into semantic

relationships **(Putejovsky2**, Abstract; Fig. 1). It would have been obvious to one

of ordinary skill in the art at the time of the invention to interpret a natural query to

be an unmodified query that is then processed to identify semantic content

contained in the query for the purpose of obtaining related information.

Claim 23

Putejovsky teaches accessing a at least one knowledge base includes accessing

a plurality of knowledge bases comprising two or more of **(Putejovsky2**, Abstract; Fig.

1): at least one knowledge base resident on a storage medium co-located with the

computer **(Putejovsky2**, Abstract; Fig. 1), at least one knowledge base on a corporate

server **(Putejovsky2**, Abstract; Fig. 1), at least one knowledge base accessed by an

internet link **(Putejovsky2**, Abstract; Fig. 1).

Claims 12, 24

Putejovsky teaches the method includes submitting the query to the at least one

knowledge base without intervention by a user **(Putejovsky2**, Abstract; Fig. 1; EN: ¶ 12

applies; once the query has been established, the computer ... system ... processes it

without the intervention of the user ... the user is waiting for the answer).

Claim 25

Putejovsky teaches identifying the problem to be solved includes analyzing

functional relationships between key elements of the system model (**Putejovsky2**,

Abstract; Fig. 1; EN: such would be identifying semantic content); and reformulating the

machine representation of the problem statement into the natural language query

includes translating the functional relationships into the natural language query

(**Putejovsky1**, Abstract; Fig. 1; EN: such would be the selecting a term on the electronic

page for which a query is to be performed).

Claim 26

Putejovsky teaches identifying the problem to be solved includes performing a

root cause analysis of the system model that establishes one or more nodes

(**Putejovsky1**, ¶ 0030; Fig. 2; **Putejovsky2**, ¶¶ **0029, 0030**; EN: root cause analysis

using stem is synonymous with the function of applicant's node); and reformulating the

machine representation of the problem statement into the natural language query

includes nodes into the natural language query (**Putejovsky1**, ¶ 0030; Fig. 2;

Putejovsky2, ¶¶ **0029, 0030**; EN: root cause analysis using stem is synonymous with

the function of applicant's node).

Claims 15, 27

Putejovsky teaches at least one of said knowledge base includes a semantic

analysis knowledge base (**Putejovsky1**, ¶ 0034; **Putejovsky2**, ¶ 0029, 0030).

Claim 28

Putejovsky teaches presenting the set of solution suggestions via an output device (**Putejovsky2**, Fig. 1; EN: such would be the user system).

Claims 29, 32

Putejovsky teaches analyzing a system model, including identifying a problem to be solved and generating a machine representation of a problem statement representing the problem (**Putejovsky1**, ¶ 0018; EN: system model is not used or defined in the specification and is interpreted to be merely "a problem"); reformulating the machine representation of the problem statement into a natural language or Boolean query (**Putejovsky2**, Abstract); and accessing at least one knowledge base having problem solutions stored therein, and automatically obtaining a set of solution suggestions from the at least one knowledge base responsive to the query (**Putejovsky2**, Abstract; Fig. 1). It would have been obvious to one of ordinary skill in the art at the time of the invention to interpret a Boolean query as being an ordinary implementation of a computer process since computer processes are made up of Boolean statements … just the way a computer operates.

Claims 30, 31

Putejovsky teaches at least one processor and at least one storage medium (**Putejovsky2**, Fig. 1); a user input device configured to enable user interact with at least a portion of a system model to enable identification of a problem to be solved, represented as a problem statement (**Putejovsky2**, Fig. 1); a problem analysis tool configured to generate a machine representation of the problem statement (**Putejovsky2**, Fig. 1); a query formatter configured to reformulate the machine

representation of the problem statement into a natural language or Boolean query **(Putejovsky2**, Fig. 1); and at least one knowledge base comprising: at least one database comprising problem solutions **(Putejovsky2**, Fig. 1); and a knowledge search tool configured to automatically search the at least one database for a set of solution suggestions responsive to the query **(Putejovsky2**, Fig. 1). EN: applicant is informed that since this claim is merely limited by the term "configured to", the examiner will interpret that such limitation is nothing more than a "view of" and subsequent following statements are of no consequence).

Response to Arguments

8.   Regarding the rejections under 35 USC 101, applicant did not respond to the preemption rejection. The examples cited by the applicant on page 9 and 10 of the response of March 17, 2008 are abstract and merely incorporating such abstract concepts in a computer constitutes a prima facie case of obviousness.

9.   Applicant's arguments filed on March 17, 2008 related to Claims 4-15 and 17-32 have been fully considered but are not persuasive.

In reference to Applicant's argument:

As will be discussed below, Putejovsky1 does not, for example, anticipate the query formatter or formations of the claims of the present application. Putejovsky1 requires input of a natural language query, whereas the present invention generates a natural language query from other information. Putejovsky1 requires a natural language query as <u>a starting point,</u> else no processing is done.
The Office Action variously cites US Pat. Pub. No. 2001/0037328 to Putejovsky et al. (referred to as "Putejovsky2"). Putejovsky2 is similar to Putejovsky1 in that it also requires a user to input a query. In fact, the very first sentence of Putejovsky2, in its Abstract, says "A query is received via a computer user interface." FIG. 1 of Putejovsky2 also shows this. Like Putejovsky1, Putejovsky2 also requires a natural language query as <u>a starting point.</u>

Examiner's response:

The claims and only the claims form the metes and bounds of the invention. The

claims are not so defined or limited to require a natural language starting point but even

if they were, it would be obvious to one of ordinary skill in the art to reverse the process

to provide a natural language result since such process is reversible.

In reference to Applicant's argument:

A fundamental difference between Pustejovsky1l and claim 29 relates to the formation of a natural
language or Boolean query. In Pustejovsky1 a <u>user input</u> natural language query is <u>a starting point.</u>
Processing is then performed on the user input natural language query to turn it into a semantic
representation so that a search can be performed. And Pustejovsky1 makes no mention of forming
Boolean queries.

Specifically, in Pustejovsky1, the user inputs a natural language query. If the natural language query is
not a textual input, e.g., a voice input, then the non-textual input is converted into a natural language
textual input. "This textual query would go through the stages including ~ and <u>tokenization</u> ... and would
produce a semantic representation. (Pustejovslcy1, para. 0041 - 0042) The semantic representations are
then used for searching.

Examiner's response:

The claims and only the claims form the metes and bounds of the invention. If

the claims facilitate a reading by Pustejovsky1, then the claims must be further limited.

But even if such claims were limited, a reverse process would be obvious to one of

ordinary skill in the art.

In reference to Applicant's argument:

In contrast, note that in claim 29 a natural language query is not user input, like TEXT 243, but rather is
generated from other information. In claim 29 a natural language query is a result on novel processing,
which starts with a system model from which a problem statement is generated. THEN, a natural
language query is automatically generated (i.e., not user input). The automatically generated natural
language query in claim 29 is then used by a knowledge base to obtain a set of solution suggestions.

Pustejovsky1 is completely silent on generating a natural language or Boolean query as in claim 29;
Putejovsky2 is similar in that regard since it also requires input of a natural language query from a user.
More particularly, Pustejovsky1 is completely silent on any automated approach to generating TEXT 243.
It is further silent on generating TEXT 243 as provided in claim 29, i.e., as follows:

> analyzing a system model, including identifying a
> problem to be solved and generating a machine
> representation of a problem statement representing
> the problem;
>
> reformulating the machine representation of the
> problem statement into a natural language or Boolean
> query;

Examiner's response:

Claim 29 allows for the option of Boolean query which would be an obvious

implementation since computers are implemented with Boolean expressions. System

model is not referenced in the specification.

In reference to Applicant's argument:

As with claim 29, the system of claim 30 generates a natural language or Boolean query, rather than
expecting a natural language query as an input from a user. That is, the system of claim 30 generates a
natural language or Boolean query from a problem statement, which was generated from a system
model. Again, a user does not input a natural language query such as TEXT 243 taught by Pustejovsky1.
Accordingly, Applicant contends that Pustejovsky1 does not anticipate each and every element of claim
30, nor does Putejovsky2.

Examiner's response:

The claim steps of claim 30 are limited by the term "configured to" which is not a

positive limitation and does not require that subsequent limitations are implemented.

In reference to Applicant's argument:

As with claims 29 and 30, the system of claim 31 generates a natural language query, rather than
expecting such an input from a user. That is, the system of claim 31 generates a natural language query
from a problem statement, which was generated from a system model. Again, a user does not input a
natural language query such as TEXT 243 taught by Pustejovsky1.

Examiner's response:

The claim steps of claim 31 are limited by the term "configured to" which is not a

positive limitation and does not require that subsequent limitations are implemented.

In reference to Applicant's argument:

With respect to claim 4, for example, since Pustejovsky1 does not teach the system of claim 31, it does
not teach the system of claim 4 "wherein the query formatter is configured to translate functional
relationships in the machine representation of the problem statement into semantic relationships."
Pustejovsky1 does not include a query formatter as in the present invention, so cannot provide a query
formatter configured as above, nor does Pustejovsky2.
With respect to claim 5, for example, since Pustejovsky1 does not teach the system of claim 31, it does
not teach the system of claim 5 "wherein the query formatter is configured to reformulate the problem
statement into a natural language query or a Boolean query." Pustejovsky1 does not include a query
formatter as in the present invention, so cannot provide a query formatter configured as above, nor does
Pustejovsky2. And Putejovsky1 does not teach reformulating problem statements into Boolean format
queries, nor does Putejovsky2.

Examiner's response:

The claim steps of claims 4 and 5 are limited by the term "configured to" which is

not a positive limitation and does not require that subsequent limitations are

implemented.

In reference to Applicant's argument:

With respect to claim 13, for example, since Pustejovsky1 does not teach the system of claim 31, it does
not teach the system of claim 13 wherein "the problem analysis tool is configured to determine functional
relationships between key elements of the system model; and the query formatter is configured to
reformulate the machine representation of the problem statement by translating the functional
relationships into the natural language query." Pustejovsky1 does not include a query formatter as in the
present invention, so cannot provide a query formatter configured as above, nor does Pustejovsky2.

Examiner's response:

The claim steps of claim 13 are limited by the term "configured to" which is not a

positive limitation and does not require that subsequent limitations are implemented.

In reference to Applicant's argument:

With respect to claim 14, for example, since Pustejovsky1 does not teach the system of claim 31, it does not teach the system of claim 14 wherein "the problem analysis tool is configured to perform a root cause analysis of the system model that establishes one or more nodes and the query formatter is configured to translate the one or more nodes into the natural language query." Pustejovsky1 does not include a query formatter as in the present invention, so cannot provide a query formatter configured as above, nor does Pustejovsky2.

Examiner's response:

The claim steps of claim 14 are limited by the term "configured to" which is not a

positive limitation and does not require that subsequent limitations are implemented.

Examination Considerations

10.   The claims and only the claims form the metes and bounds of the invention.

"Office personnel are to give the claims their broadest reasonable interpretation in light

of the supporting disclosure. *In re Morris,* 127 F.3d 1048, 1054-55, 44USPQ2d 1023,

1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in

the claim are not read into the claim. *In re Prater,* 415 F.2d, 1393, 1404-05, 162 USPQ

541, 550-551 (CCPA 1969)" (MPEP p 2100-8, c 2, l 45-48; p 2100-9, c 1, l 1-4). The

Examiner has full latitude to interpret each claim in the broadest reasonable sense.

Examiner will reference prior art using terminology familiar to one of ordinary skill in the

art. Such an approach is broad in concept and can be either explicit or implicit in m1.

Examiner's Notes are provided with the cited references to prior art to assist the

applicant to better understand the nature of the prior art, application of such prior art

and, as appropriate, to further indicate other prior art that maybe applied in other office

actions. Such comments are entirely consistent with the intent and spirit of compact

prosecution. However, and unless otherwise stated, the Examiner's Notes are not prior

art but a link to prior art that one of ordinary skill in the art would find inherently

appropriate.

12. Unless otherwise annotated, Examiner's statements are to be interpreted in

reference to that of one of ordinary skill in the art. Statements made in reference to the

condition of the disclosure constitute, on the face of it, the basis and such would be

obvious to one of ordinary skill in the art, establishing thereby an inherent prima facie

statement.

13. Examiner's Opinion: ¶¶ 10-12. apply. The Examiner has full latitude to interpret

each claim in the broadest reasonable sense.

Conclusion

14. Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

15.   Claims 4-15 and 17-32 are rejected.

Correspondence Information

Any inquiry concerning this information or related to the subject disclosure

should be directed to the Primary Examiner, Joseph P. Hirl, whose telephone number is

(571) 272-3685. The Examiner can be reached on Monday – Thursday from 5:30 a.m.

to 4:00 p.m.

As detailed in MPEP 502.03, communications via Internet e-mail are at the

discretion of the applicant. Without a written authorization by applicant recorded in the

applicant's file, the USPTO will not respond via e-mail to any Internet correspondence

which contains information subject to the confidentiality requirement as set forth in 35

U.S.C. 122. A paper copy of such correspondence will be placed in the appropriate

patent application. The following is an example authorization which may be used by the

applicant:

> Notwithstanding the lack of security with Internet Communications, I hereby authorize the USPTO
> to communicate with me concerning any subject matter related to the instant application by e-
> mail. I understand that a copy of such communications related to formal submissions will be
> made of record in the applications file.

If attempts to reach the Examiner by telephone are unsuccessful, the

Examiner's supervisor, David R. Vincent can be reached at (571) 272-3080.

Any response to this office action should be mailed to:

Commissioner of Patents and Trademarks,

Washington, D. C. 20231;

Hand delivered to:

Receptionist,

Customer Service Window,

Randolph Building,

401 Dulany Street,

Alexandria, Virginia 22313,

(located on the first floor of the south side of the Randolph Building);

or faxed to:

(571) 273-8300 (for formal communications intended for entry.

Information regarding the status of an application may be obtained from the

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have any questions on access to Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll free).

/Joseph P. Hirl/
Primary Examiner, Art Unit 2129
June 17, 2008